Claims

1. A photovoltaic tile, comprising:

at least one photovoltaic element having at least one photovoltaic collection surface; and

a frame holding said at least one photovoltaic element such that said at least one photovoltaic element is substantially held in place relative to said frame,

said frame comprising a first end portion and a second end portion, said first end portion being of a shape which is engageable with a shape of said second end portion.

2. A photovoltaic tile as recited in claim 1, wherein said frame comprises a front frame surface and a back frame surface, said front frame surface and said back frame surface each having a length which is a multiple of a length of a standard roofing tile.

3. A photovoltaic tile as recited in claim 1, wherein said first end portion comprises an upward hook shape, and said second end portion comprises a downward hook shape.

4. A photovoltaic tile, comprising:

at least one photovoltaic element having at least one photovoltaic collection surface; and

a frame holding said at least one photovoltaic element such that said at least one photovoltaic element is substantially held in place relative to said frame,

said frame comprising a first end portion having a shape which is engageable with at least a first side portion of a standard roofing tile.

5. A photovoltaic tile as recited in claim 4, wherein said frame further comprises a second end portion having a shape which is engageable with a shape of said first end portion.

6. A photovoltaic tile as recited in claim 4, wherein said frame further comprises a second end portion having a shape which is engageable with a second side portion of said standard roofing tile.

7. A photovoltaic tile as recited in claim 4, wherein said frame comprises a front frame surface and a back frame surface, said front frame surface and said back frame surface each having a length which is a multiple of a length of said standard roofing tile.

8. A photovoltaic tile, comprising:

at least one photovoltaic element having at least one photovoltaic collection surface; and

a frame holding said at least one photovoltaic element such that said at least one photovoltaic element is substantially held in place relative to said frame,

said frame comprising a first end portion having a shape which is similar to at least a shape of a first side portion of a standard roofing tile.

9. A photovoltaic tile as recited in claim 8, wherein said frame further comprises a second end portion having a shape which is similar to a shape of a second side portion of said standard roofing tile.

10. A photovoltaic tile as recited in claim 8, wherein said frame comprises a front frame surface and a back frame surface, said front frame surface and said back frame surface each having a length which is a multiple of a length of a standard roofing tile.

11. A roofing system, comprising:

at least one photovoltaic tile as recited in claim 6, said photovoltaic tile further comprising at least one underhang portion attached to or integral with said frame; and

at least one retaining clip, said retaining clip comprising an underhang engaging portion having a thickness which is smaller than a thickness of a space between said underhang portion and said frame.

12. A roofing system as recited in claim 11, wherein said retaining clip has a first substantially flat portion for engagement with a roof deck, an underhang engaging portion for fitting between said underhang portion and said frame, and a third portion connecting said first portion to said underhang engaging portion.

13. A roofing system, comprising:

a plurality of roofing tiles, each said roofing tile having a first side portion and a second side portion; and

at least one photovoltaic tile as recited in claim 6.

14. A roofing system, comprising:

at least one photovoltaic tile as recited in claim 9, said photovoltaic tile further comprising at least one underhang portion attached to or integral with said frame; and

at least one retaining clip, said retaining clip comprising an underhang engaging portion having a thickness which is smaller than a thickness of a space between said underhang portion and said frame.

15. A roofing system as recited in claim 14, wherein said retaining clip has a first substantially flat portion for engagement with a roof deck, said underhang engaging portion for fitting between said underhang portion and said frame, and a third portion connecting said first portion to said underhang engaging portion.

16. A roofing system, comprising:

a plurality of roofing tiles, each said roofing tile having a first side portion and a second side portion; and

at least one photovoltaic tile as recited in claim 9.

17. A method of constructing a roof, comprising:

positioning at least one roofing tile on a roof surface, said at least one roofing tile having a first side portion; and

positioning at least a first photovoltaic tile on said roof surface, said first photovoltaic tile comprising a first photovoltaic element and a first frame, said first frame holding said first photovoltaic element such that said first photovoltaic element is substantially held in place relative to said first frame, said first frame comprising a first end portion, such that said first end portion of said first frame is engaged with said first side portion of said at least one roofing tile.

18. A method as recited in claim 17, further comprising attaching at least one retaining clip to said roof deck, said frame having an underhang portion attached thereto, and while positioning said at least one photovoltaic tile on said roof surface, a free end of said retaining clip slides between said frame and said underhang portion.

19. A method as recited in claim 18, wherein an underhang engaging portion of said retaining clip overlaps only a portion of said underhang portion, whereby a first photovoltaic tile in one course can be mounted on said roof surface above a second photovoltaic tile in a different course such that a desired reveal length of said second photovoltaic tile is not overlapped by said first photovoltaic tile.

20. A method as recited in claim 17, further comprising:

positioning at least a second photovoltaic tile on said roof surface, said second photovoltaic tile comprising at least a second photovoltaic element and a second frame, said second frame holding said second photovoltaic element such that said second photovoltaic element is substantially held in place relative to said second frame, said second frame comprising a second frame first end portion and a second frame second end portion,

such that said second frame first end portion is engaged with a second end portion of said first frame.